

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [2120] 14.100 Beacons
Message-ID: <199601020655.GAA27918@chuck.dallas.sgi.com>

The above beacons are still in operation. It's a real test of a receiver and selectivity to hear them.

Check out the ARRL Operating Guide. Also someone do everyone a favor and spread the word that the rest of the world would like to monitor them. They are valuable and have been around a long time.

They will be more important in a few more years when the sun spot cycle starts "warming" up.

If everyone is running a beacon, who will be left to work?

dit dit

--

Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: JKXM17A@prodigy.com (ALLEN SMITH)
Subject: [2111] AA4XX Beacon, Yes
Message-ID: <091.07743038.JKXM17A@prodigy.com>

Perseverance paid off. AA4XX/B was captured at AA0YU @ 0330Z, the entire beacon string this time.

Receiver is a Wilderness NorCal 40A. Antenna is a 40 meter wire dipole strung along the west side of the house, using a 16 foot redwood 4x4 as a center support, a 100 RG8 feedline, an old MFJ 949 Versa Tuner II. The distance works out to about 1648 miles.

Allen - AA0YU, Grand Junction, CO (39 03 50 N, 108 33 00 W)

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: NYOUNG@nova.wright.edu
Subject: [2146] And just when you thought your mail cue was empty...

Message-ID: <01HZJMOBS20M94DXVG@nova.wright.edu>

A couple things here. First is this marvelously long-winded session of exchanges that has been going on over another list to which I sub. It's the Altaicnet-list out of U.Wash, over which there is supposed to be conducted a scholarly exchange of ideas about the linguistics of the Altaic languages (which includes the Turkic, Altai, Mongolian languages with subtitles for Finno-Ugric and possibly Paleo-Siberian, Na-Dene languages). At first it was just that: a friendly exchange. But somewhere along the line, some subbers got hot 'cause there was all this mail piled up every day. Then they started arguing about methodologies (of language research as a scientific investigation). And just today, someone posted a couple lines which ended with something like "Do you give lectures to people who sit at your dinner table?"

Man, I'll take this bunch of loonies over that kind of rhetoric any day. Reminds me too much of grad school.

Then there's number 2: I forgot just how hot a tab mount transistor can get just hanging in space. I mean, there's this place on my thumb where you can make out the whole back side of a NTE2303, complete with the little space what ain't burned which corresponds to the little hole on the tab where the heat sink was supposed to be. Jeezh! That sucker was hot! And it don't work no more neither.

And if you guys are smart, you'll do two things: 1. Read Joe Cooper's list of VLF/ELF/?LF kits before you get some dang fool idea that you can build one of these 1.75 km beacon tx's from scraps. Oh, sure. You could do it. But you better remember them transistors gets hot, bubbah. And 2? Well, 2 is you'll get yerselfs a aloe plant and keep it next t' yer slobberin' iron on the bench just 'n case you get as bat-head stupid as me.

AND who wants to join me in some VLF lowferin'? I'm nuts. It's a fact. What not be nuts like me too? I mean, it sure beats gettin' lectured about the morphophonemic typology of the Altaic languages any time, don'tcha think? (Oh, yeah, I forgot: T /b/ = U /p/ in initial position [naturally, he said with an air of academic distain] and T /k/ = U /q/ in final position [he said ...], which means that T /bok/ is U /poq/. Get it?)

So there.

73 (and 73 km, fer them what's lowferin')

Nils
WB8IJN

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: "TimCook" <timcook@erinet.com>
Subject: [2119] Argosy 525 for sale
Message-ID: <199601020131.UAA20867@eri.erinet.com>

I still have the 525 Analog Argosy for sale. It is in very good condition and has the optional Noise blanker, Xtal Calibrator, and a 500hz cw filter. asking \$325 plus shipping. would take a JPS ANC-4 Noise Eliminator in trade. Please email any info.
Tim NZ8J
Tim Cook
timcook@erinet.com

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: flanders@GroupZ.net (Jerry Flanders)
Subject: [2136] Beacon Comments from South Carolina
Message-ID: <199601021911.0AA120839@nss2.CC.Lehigh.EDU>

W4UKU Beacon Report for 1/1/96

PORTIONS EXCERPTED FROM EMAIL TO AA4XX CONCERNING RECEPTION AND BEACON COMMENTS

On the map, it looks like I am about 275 miles from Raleigh, NC.

I have ICOM 751 and Kenwood R599D. Both receivers copied beacons successfully at several narrow and wide bandwidths. I have MFJ 752A Active Audio filter (was not really needed). Antennas (2) were ground mounted Butternut vertical covering all bands 160 to 10, and a horizontal 40 meter dipole up about 40 feet (Runs N-S, not ideal for reception from NC). Copied beacon on both antennas. Could observe polarization shift at times.

I copied the 2MW transmission, and also the 20 MW one.

I never detected any signal of any kind during the scheduled time for the 8-11 AM EST 200uW signal. Perhaps if there had been a 2 W ID'd carrier that I could have peaked up the filters on, my results might have been different.

I think

if I were running a beacon, and trying to broadcast it to the entire QRP fraternity, I would be VERY careful to have the same radiated power in every azimuthal direction, since a directional antenna can deliver more power in its favored direction ONLY by taking it away from some other direction. If the guys >800 mi. are favored by a "low angle" vertical radiator, so be it - they probably need whatever breaks they can get.

If transmitting antennas are changed during the operation, perhaps the antenna change times could be published, or perhaps the beacon operator could include a code in the transmitted string to designate which antenna or which beam direction is in use.

----- My opinion of "IDEAL" Beacon transmission schedule: -----

"Time" below is starting time of transmission. All transmissions are one minute long. Cycle repeats every 5 minutes. ("TUNE" transmissions at top of hour, then every 5,10,15, etc. minutes past.)

Time (minutes) 0
Power level 2W (or appropriate moderate power level)
Word sent: "TUNE"
Purpose: Allow listeners to find signal and optimize filters, etc, and verify that beacon is actually "on the air".

Time (minutes) 1
Power level 200MW
Word sent: Code word 1
Purpose: Listeners try to copy code word 1

Time (minutes) 2
Power level 20MW
Word sent: Code word 2
Purpose: Listeners try to copy code word 2

Time (minutes) 3
Power level 2MW
Word sent: Code word 3
Purpose: Listeners try to copy code word 3

Time (minutes) 4
Power level 200UW
Word sent: Code word 4
Purpose: Listeners try to copy code word 4

Minute 0 would be on start of the hour, cycle would repeat every 5 minutes.

Transmissions would be either at multiple of 10 or 25 KHZ to allow calibrator in many rigs to be used to find frequency by simply tuning on calibrator's signal. (Probably 10 is better choice - more widely used(?) This would result in, for example, using 7020.00 KHZ instead of 7021.00.

This would repeat for a full 24 hours, or for such a time that provided best propagation chances for all listeners. Hopefully, the operation would all be computer switched and computer keyed.

I think sending all power levels within a 5 minute period would allow a listener to utilize brief good propagation periods to his maximum advantage. (I had the 2 MW so strong at times Monday that I am certain I could have easily copied a signal 10 dB less AT THAT TIME.)

If anyone is now planning a DOS PC-controlled beacon, I would be glad to assist with the PC software for the above (or any other) proposal. Also would be glad to collaborate on hardware. Contact me at flanders@groupz.net

I think it is great that AA4XX is running this beacon test thing. We all owe him several "attaboys". Thanks, Paul.

Happy New Year to all.

Jerry Flanders W4UKU South Carolina

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: rossi@VFL.Paramax.COM (Pete Rossi)
Subject: [2126] beacon notes...
Message-ID: <9601021436.AA29770@gvlf6-a>

I think it would be more useful and perhaps more interesting if the beacon could change power levels more frequently.. Lets say change power steps every 5-10 minutes so it could cycle through all power levels over a shorter period of time.. like 1 hour. I was copying the beacon just fine at the 20 mw level for over an hour... waiting for it to change level. It would have been interesting to see what the lower levels were like.. but unfortunately I missed them at the earlier times.

Also, I think it would make sense to start out at the higher power levels and then go lower this way people could find it then see how low it can go before they lose it. At one time I thought it had faded out but it was only that my RX had drifted a tad and was no longer on frequency. Once I found it again it was a good solid S5-6 again.

Also, odd to note... I have a commercial grade step attenuator in the receive antenna line. It can go from 0 to 99 dB in 1 dB steps. I was still able to hear the 2 mW beacon with 30 dB of attenuation in the line!

But this may not be a fair test since the attenuator reduces both the signal and the background noise by equal amounts. Dropping the beacon transmit power alone by 30 dB would most likely drop it below the noise level.

I wish I had not missed the Christmas Day beacon. I wanted to listen and remembered about noon on Christmas Day that I should take a listen but but then totally forgot about it until later that night... Was glad to catch the note about the New Years beacon.

Pete Rossi - WA3NNA
rossi@vfl.paramax.com
Loral Defense Systems-Eagan (formerly Unisys Government Systems Group)
Valley Forge Engineering Center - Paoli, Pennsylvania

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: wmcshan@REX.RE.uokhsc.edu (Mike McShan)
Subject: [2135] Beacon report
Message-ID: <9601021639.AA23100@rex.re.uokhsc.edu>

Hi gang,

Well, after a year of not being active on HF I finally got up an outside antenna. Ignoring the predicted snow (it didn't come anyway), I climbed to the roof to string up an Alpha Delta DX-B sloper. Cold on a roof in January (better than hot, though). After some social obligations, I finally got the antenna hooked up to my Yaesu FT747 and started monitoring the beacon frequency around 8 PM. Finally at 9:30 PM CST, I heard it at the 200 mW level. My home is in Edmond, OK (just north of Oklahoma City) -- lat: 35.615700, long: -97.44908; grid square: EM15G0. I copied the beacon from 9:30 PM to 9:50 PM CST (0330 - 0350 Z). RST varied from 539 to 559 with some fading. Atmospheric noise was moderate (background S3-4 on my S meter). I was also using a Radio Shack DSP filter to help remove the static (it helped a lot). I had also strung

together a DC loop antenna like the one Bob Follett WA7FCU had described to the list a few days ago. I was also able to hear the beacon with this antenna at about 1-2 S units less (still clear copy). It was strung across a bookcase in the room.

Thanks to Paul AA4XX and his cohorts for conducting this experiment!

Happy New Year and 72/73 to all,

Mike N5JKY
QRP-L #300

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From qrp-l@lehigh.edu Tue Jan 2 21:17:50 1996
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [2138] Beacons et.al.
Message-ID: <199601021927.TAA01792@chuck.dallas.sgi.com>

Gang,

1. Thanks again to Paul, AA4XX, for sacrificing his time and energy to have a monitored beacon going during the holidays at 7.004 and 7.021MHz.

Someone wanted him to do different power levels starting high to low like the 14.100MHz beacons. That is not an easy task, especially if one wants to automate it in some fashion. And to have a high degree of accuracy also.

2. I looked back through the archives in Dec 1994. For those who are new to the group you might wanna learn all the dweeb

stuff to get information on the "superhighway" and look at the archives for this group at

ftp.lehigh.edu:pub/listserv/qrp-1/Archives

It's everything since 1993 (wow, time flies...).

Anyway, we had reports of the F Q and V beacons from the former USSR on 7.0395MHz. Haven't heard anybody say anything this year. So if you hear anything, send me email and I'll summarize. They (the beacons) are usually good signs for DX propagation. They are also good tests for receiver sensitivity.

All this activity is just another area of the study of the Physics of electromagnetic propagation from point A to point B. And you thought all that physics and math would be useless? :-)

We will get to the math later, it's not just miles/watts.

dit dit

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Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: RobCap@aol.com
Subject: [2127] Cascade
Message-ID: <960102094117_29498207@emout05.mail.aol.com>

Dave-

My Cascade exhibits a behavior, and am wondering if you think it's normal or not. The rig puts out 3 watts (20 meters) on peaks when I whistle into it. But in normal speech, as measured in the OHR CW wattmeter, the wattmeter reads less than half a watt.

Am wondering if you consider this normal for the Cascade, or if it's indicative of a problem (like insufficient mic amplification or compression).

Also, I was wondering if you had any tips for getting the Cascade's power output up to specification. I'm getting 3W on 20, and 7W on 75, again on whistle peaks.

Would appreciate any thoughts.

73,

Rob

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: WJ4PRandy@aol.com
Subject: [2113] CodeBoy Review
Message-ID: <960101230013_29260030@emout05.mail.aol.com>

Hey Guys,

A report on a Christmas Gift...

I built a Radio Adventures Corp Model A1 (CodeBoy) today and I am impressed. The thing runs off its own self-contained 3V watch battery and the spec sheet says it is supposed to run 200 hours key down and if it is turned off it will do the shelf life of the battery. The directions don't say if it automatically powers itself down during inactivity but 200 hours of continuous dits and dahs is a loooooooooooooooooong time!

It has Iambic A and B, dot and dash memory, space and weight compensation, paddle and straight key or bug inputs and a mosfet keying transistor. And it is itty-bitty. The board would make a great build-in in an HB project. It powers itself so no worries about battery drain for that part when backpacking.

The kit went together in about an hour of poking parts in while trying to find the beacon, tuning and poking, tuning and poking and soldering... Physically it is a very tight fit - follow the assembly directions!!! I didnt at first and I had to backtrack some. My one black mark had to do with the two screws that hold the case together. They supply standard machine screws and it would have been easier to assemble with self-tapping screws.

Pre-power checks OK, plug in the IC and pop in the battery... more checks...it works!! first time...yes! The speed control is silky smooth and the speed adjustment seems very linear and accurately marked on the front panel. I found it very easy to adjust the speed to match the other stations I worked.

OK... its small, I don't have to remember to turn it off, and it works well. I'd give it a good review guys. A self-contained keyer for about 40 bucks delivered. I'm a believer. BTW,

RAC has email at rac@usa.net.

73, Randy WJ4P

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: Clark Savage Turner WA3JPG <turner@safety.ICS.UCI.EDU>
Subject: [2151] Comm Quarterly
Message-ID: <1985.820633718@safety.ics.uci.edu>

Hello -

Simple request, anyone get Communications Quarterly and would not mind copying an article about Regen receivers from last month's edition? I looked around, and our local HRO doesn't have them right now. None in any of the UC system libraries, unfortunately. I would be happy to trade some copying of old QRP Quarterly if you need it, have the last couple of years bound up :-)

Clark

.....

Clark Savage Turner, Graduate Student Researcher
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(714) 824 4049 (714) 856 2131

WA3JPG, QRP #3526

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: ljones@why.net (ljones)
Subject: [2122] email address
Message-ID: <19960102070353061.AAA212@dal14.why.net>

Greetings Gang...

Sri for the use of bandwidth, but I need to direct this to Charles Copeland (sri, forgot call). I tried to send a msg to your email address of charlesl@netcom.com and it was bounced back. Please send to me direct. Thanks Guys...

72/73

dee-it dee-it

Larry Jones N50SG <><	NorTex	QRP-ARCI	G-QRP	MI-QRP
4028 Random Circle	NorCal	NE-QRP	QRP-L	NTMS
Garland Tx 75043-3250				

From qrp-l@lehigh.edu Tue Jan 2 21:17:50 1996
From: Mark D Jarmuz <jarmuz@acsu.Buffalo.edu>
Subject: [2134] F/S MFJ 9030.....
Message-ID: <Pine.SOL.3.91.951220113705.22721A-100000@orichalc.acsu.buffalo.edu>

hi gang.....
have for sale mfj 9030...about 4 months old....
asking 115.00 firm...with box,manuals,etc...
if interested contact me via internet or at
716-826-7740.....73s..DAVE..AA2PF....

From qrp-l@lehigh.edu Tue Jan 2 21:17:50 1996
From: John_Foote_at_HDN-BCSE@ccgate.ml.nec.com
Subject: [2128] Flying with rigs and antennas
Message-ID: <9600028206.AA820608202@mvlsmtp.ccgate.ml.nec.com>

I flew from Washington, DC to Albany last month during the height of the alert modes at airports.

I took with me a tool box filled with an Alinco DX-70T, magnet wire, headphones, an antenna tuner and two (2) 6 volt sealed lead acid batteries, 10 ah each.

I decided that if someone randomly X-rayed the toolbox in the checked luggage section the entire flight and part of Dulles International Airport might come to a screeching halt. So when I got to the ticket counter I said "I am an amateur radio operator and I have a portable station in this toolbox.

"If someone should X-ray this toolbox, they might become confused as to what are the contents. Maybe someone should examine it now."

She escorted me to the security desk where the supervisor looked inside the box and put a "checked by security" sticker on it. He instructed us not to open it again and the lady escorted me back to the ticket counter to check the piece. She then thanked me.

Based on the attitude shown by the folks at Dulles I think it would have stopped things if someone had looked at the toolbox.

Bottom line: I suggest you bring up any equipment you carry early, in a low key, matter of fact tone. I also placed a copy of my license inside the toolbox. While we may not attach a big deal to the actual license we got over a weekend, it nonetheless conveys official sanction to our activities.

72 and Happy New Year de KR4GL John Foote

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: kreinbd@ccgate.dl.nec.com (David Kreinberg)
Subject: [2130] FOLDED DIPOLE - OK!
Message-ID: <9600028206.AA820601502@smtpgw.ccgate.dl.nec.com>

Folks:

Thanks to all who gave me their info and experiences with folded dipoles.

I put a 40M version up last Saturday. Apex abt. 40' and kept feed line as short as possible.

Happy results: Works amazingly FB!!
My QSO total is up about 90%. Can answer those CQ's now on 1st try. No DX yet, but I'm workin' entire USA, DX just a matter of time and patience.

Next big test will be the foxy critter.

Hpy nw yr from TX

72/73 de Dave KK5HA

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: ljones@why.net (ljones)
Subject: [2121] Ground
Message-ID: <19960102064255192.AAA202@dal14.why.net>

Greetings Charles...

What you need is an RF Ground. An electrical ground is only good for static protection. To make an RF ground (aka counterpoise), cut a piece of wire to 1/4 wavelength at the frequency of operation. You will need one for each band. connect it directly to the transmitter. It can be stapled to the baseboard. It can also be laid out in any kind of pattern. Does not need to be a straight line. Also, a word of caution. other end of the wire is at high voltage. You will need to protect it and make sure that nobody can make contact with, especially kids.

The counterpoise acts as the ground much the same as radials do for a ground plain antenna. As a matter of fact if you can run 2 it is even better. A friend of mine was running mobile in his full size van. When connected a counterpoise to the ground connection at the antenna and ran it looped underneath his van, his receive signal level went up 2 S units. This was because the counterpoise made for a much more efficient "RF" ground. The body of the truck could not provide a proper 1/4 wave match. He had one for each band from 40 thru 10 meters.

When I lived in a basement apartment, I could only run a long wire because the landlord didn't want any big poles and antennas in the yard. I use to have one heck of a time trying to run SSB. Every time I got to close to the mike, I would get an RF bite off the mike. I solved the problem by using a counterpoise for each band.

Give it a try. It should help you in getting rid of your interference problems. Let me know how it works...

72/73

dee-it dee-it

Larry Jones N50SG <><	NorTex	QRP-ARCI	G-QRP	MI-QRP
4028 Random Circle	NorCal	NE-QRP	QRP-L	NTMS
Garland Tx 75043-3250				

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996

From: Mike Robinson <miker@cc.com>
Subject: [2137] Holiday ops
Message-ID: <9601021912.AA07528@voder.nsc.com>

Happy New Year,

While traveling from CO to CA for the holidays
I took my Norcal 40.

Just before leaving I mounted a Whiterook keyer
to the top of the case and wired it up to the
built-in (just added) Curtis Keyer.

So my portable QRP station consisted of the
modified Norcal, a battery, and a super compact
dipole. 32' of 24ga insulated hook up wire for
each leg, a plexiglass center insulator with 10'
of RG174. The whole station took about 5 minutes
to setup.

>From Santa Barbara, I made contacts in Texas and
Utah. The station in Utah said I had a big signal
but we were soon cut off by some local QRM'ers.

Not a lot of time to operate as you can imagine.

Good to be home.

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=====
7.3 de Michael aa0ub          | QRP:
miker@cc.com                  | "UR HB 5W FB HR 72"
QRP-L #126 Norcal #857 CQC #180 |
=====
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From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: "A. Robert Andrews X7173" <ara1@trsvr.tr.unisys.com>
Subject: [2131] HW8 Final Amp
Message-ID: <9601021555.AA02358@trsvr.tr.unisys.com>

I have a Heath HW8 transceiver and I find that I could use a little more power.
I know that more power is a bad choice of words with this group, but does
anyone happen to know of a transistor that I could replace the present final
amp with that will allow me to run about five watts.

73 and wishes for a Happy New Year,

Bob, K3QXH

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: "A. Robert Andrews X7173" <ara1@trsvr.tr.unisys.com>
Subject: [2132] HW8 Final Amp
Message-ID: <9601021605.AA03181@trsvr.tr.unisys.com>

I have a Heath HW8 transceiver and find that I could use a little more power. I know more power is a bad choice of words with this group, but does anyone know of a direct replacement transistor for the original final amplifier that will allow me to run about 5 watts?

73 and wishes for a Happy New Year,

Bob, K3QXH

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: Mike.Czuhajewski@bbs.abs.net (Mike Czuhajewski)
Subject: [2117] HW8 Power; AA4XX Beacon
Message-ID: <1996Jan02.002652.6873@abs.net>

HW-8 POWER:

In a recent posting, someone said "...I am only getting 1.8 watts out of my HW-8 on 20M...."

Hmmm...what are you using to measure the power on that rig? Sounds quite good to me, in fact excellent, and I wouldn't worry about it at all.

My credentials--I have extensive experience with HW-8's. Between 1987 and 1994 I worked part time (even full time for a few months) at Maryland Radio Center, a local ham store, fixing broken rigs. It's right in the middle between Washington DC and Baltimore, a major metropolitan area, so that gave me wide exposure to a large number of hams, many of them QRPers. The store would not accept any Heathkit for repair, but I did a lot of HW-8s unofficially, both at the store and at home. Every time someone mentioned that they had one, I got them to bring it in for me to do a free, full diagnostic check; I also repaired quite a few, many of those sent to me via mail, all free except for postage and for the rare parts which I had to buy.

I lost track of the exact number over the years, but I know it's at

least three dozen (no exaggeration). In fact, at this moment I have one in the shack that I have to fix for someone. At any rate, I have an excellent idea of what typical powers are, having had the opportunity to personally test a large number.

For measuring power output I used a Bird 43 wattmeter with 100 watt HF slug (not great since the rigs are way down on the scale but still surprisingly accurate), diode detectors with digital meters, and 100 MHz scopes (Tektronix 465B, both at the store and at home). I can safely say that if any HW-8 has not been modified and is putting out an honest 1.8 watts on 20 meters it is in quite good health indeed, and in fact is putting out a bit more than most will do on that band. You have two options--suspect the calibration of your power meter or rejoice in the condition of your rig :-)

BTW, if you check the specifications in the HW-8 manual, you'll see that they're given in INPUT power, not output. (I never did bother to check the efficiency of one.) And here's another plug for my article--if anyones HW-8 has low power on 80 and/or 40 and will not come up to snuff with a tuneup, suspect the ferrite cores in the output networks of those two bands. They can, and sometimes do, go bad. Details are in my article in the ftp area of lehigh.edu--go to pub/listserv/qrp-l/articles, and the filename is something like hw8cores.mcq. (Sorry, does not apply to 20/15, where they use the more stable powdered iron cores.)

AA4XX MILLIWATTING BEACON

I heard the milliwatt beacon of AA4XX several times on New Years day, at the two milliwatt level. It was in and out of the noise--the band was pretty crappy anyhow, with few signals even moving the S meter, but for the half hour I listened (12:30 to 1 PM) it was strong enough that I could copy the entire message solid all the way through, many times. An absolutely clear frequency helped tremendously! I also picked it up later at 20 milliwatts and the signal was "no-sweat QSO quality" for a while but later went in and out of the mud like the 2 mw.

I called Paul on the phone and we discussed QRP beacons for a while, He's trying to get others interested in running them too, and K3TKS and I are thinking rather seriously about it.

I had a suggestion for Paul but he said three others had already made it: Instead of going for extended periods at the same power level, run through a series of power steps in short order, rather like the 14.100 MHz DX propagation beacons do (or did--I haven't heard them for years with all the digital crud up there). That does require a little more sophisticated setup, but not too much, and I already have

the most important ingredient myself--a programmable step attenuator. (That's something I mentioned in the Idea Exchange an issue or two ago.)

That's an attenuator which is controlled with DC levels instead of a knob, and this would be a perfect application--have a computer running the beacon, send out the message perhaps two or three times, then cranking the attenuator down by 3 dB and repeat, starting over again at full power after the lowest setting was used. This would give us the chance to try lower and lower power levels before propagation changes and takes the signal out completely.

I've seen programmable attenuators at hamfests quite a few times, sometimes at reasonable prices (such as HP's for under \$50), but it wouldn't be that hard to make one of your own. Build a step attenuator like the one with slide switches that used to be (still is?) in the ARRL handbook, but with DIP relays instead of slide switches. You could do a series of 3 dB sections (one half power) and activate one more with each cycle, or sections of 3, 6, 9 and 12 dB and add them in a binary sequence to run it up to 30 dB total (1/1000 power). That would let you go from an easily found 20 milliwatts down to 20 microwatts. Many possibilities.

BTW, when I heard the beacon he had the wire beam pointed north. While we were on the phone he switched things and I lost it, but it popped back later in the call, and he said that time I was getting it off the back of the beam, still at 2 mw. My rig is a TS-430S and optional CW filter; it helped to use that and play with the IF shift a bit. My antenna is a full wave 40 meter delta loop with the top somewhere between 45 and 60 feet (guessing), fed with 450 ohm ladder line this year (coax in previous years). Overall band conditions were noisy and low signal strengths all over, but at least the frequency was perfectly clear at the time. Overall signal levels came up later in the afternoon, but activity increased as well, rendering the frequency virtually useless for a QRP beacon.

I'm eagerly awaiting the reply from the CALLS2DIST program that the lehigh.edu listserv runs so I can see if this reception is over 100,000 miles per watt. If it is, I'll apply for the award. Talk about being a jaded, long-time milliwatter--I vaguely remember the time when I would get excited about making a contact over 5000 MPW, then it took 10K MPW to get worked up, and eventually 30K and 50K contacts got to be routine and unexciting! ("Dear Lord, let the sunspots return. Amen.") It's worse than drugs!

73 and Queue Our Pea DE WA8MCQ
wa8mcq@bbs.abs.net

--

Mike Czuhajewski, user of the UniBoard System @ abs.net
E-Mail: Mike.Czuhajewski@bbs.abs.net
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: k7yha@ix.netcom.com (Richard H. Arland)
Subject: [2110] Indiana Arland and the Beacon of Doom
Message-ID: <199601020342.TAA03318@ix2.ix.netcom.com>

Finally heard the AA4XX beacon at 1700 Z on 01-01-96. Paul had the beacon running at 20 mW.

Interestingly enough, I heard it FIRST on my new Wilderness Sierra! Sitting along side the Sierra was the Argo 515. It was almost 15 minutes after I first heard the beacon on the Sierra that prop improved enough to let me hear it on the 515!

Initial signal report on the beacon (using the Sierra) was RST 219. During the next half hour conditions improved to where the beacon was a solid 329, not bad considering my very noisy location.

Looks like the Sierra definately hears better than the 515, on 40 mtrs anyway.

72/73 rich K7YHA

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: DCrespy@aol.com
Subject: [2150] K9AY transciever problem
Message-ID: <960102204936_82785429@mail04.mail.aol.com>

With all of the new QRP rigs that have popped up in the last year or two, it seems like my K9AY project is an old tube rig!!! Well, after three years of fooling around with it (I used the transmitter with my R-2000 and a makeshift VFO over two years ago...) I finally finished it and have fired it up. Everything works except the BFO. I have changed crystals and checked for shorted capacitors..bad solder joints, but still get no signal. My counter and dip meter (as a signal source) confirm that the rest of the receiver is working. Any ideas? Has anyone had a similar experience with this rig?

Thanks for the help!!! 72

Harry Crespy KG5LO

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: bcutter@teal.csn.net (Bob Cutter)
Subject: [2112] KC1/ Explorer II
Message-ID: <199601020355.UAA19179@lynx.csn.net>

Has anyone matched these two units yet?

72, Bob KI0G
END

Bob Cutter,Glenwood Springs, CO

KI0G

bcutter@teal.csn.net

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: DCrespy@aol.com
Subject: [2143] Mouse Keyer Lives (12/31)-Curtis keyer problem
Message-ID: <960102164856_82634057@emout06.mail.aol.com>

I had similar problem (comes on and stays on..seems to start at random) with a Curtis keyer chip in the last few months. I had tried to put it in a plastic box (an "IR transmitter" case). The only way I could fix it was to go to a metal mini-box. I still suspect that the chip was somehow faulty, since the battery drain is enough to run it down after a few weeks of storage.

I hope this helps!

Harry Crespy
KG5LO

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: Craig LaBarge <74740.3166@compuserve.com>
Subject: [2148] OHR Explorer II VFO Stability
Message-ID: <960103012717_74740.3166_EHB60-1@CompuServe.COM>

Greetings:

I was wondering what kind of VFO stability folks are seeing with their Explorer IIs. On initial power up, mine drifts downward in frequency quite noticeably for the first minute or two. It seems to take a good 10 - 15 minutes or more to really settle out.

I was wondering if this is typical or if it's just my rig. I haven't performed any real drift measurements because I had to return the borrowed frequency counter that I used to align it.

All-in-all, however, I've been very pleased with the Explorer II.

73, Craig WB3GCK

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: ljones@why.net (ljones)
Subject: [2123] OK QRP Club??
Message-ID: <19960102071219909.AAA240@dal14.why.net>

Greetings Gang...

Well, I guess I am the one with egg on my face. A few days back I asked for information on the OK QRP Club. All the while I thought that I was communicating well until I received a msg that gave me the info for the OK Club in Europe! Boy, did I ever come awake, DUH! :-? The OK QRP Club I wanted was the Oklahoma QRP Club in the state of Oklahoma, USA. So, could someone email me that info.

72/73

dee-it dee-it

Larry Jones N50SG <><	NorTex	QRP-ARCI	G-QRP	MI-QRP
4028 Random Circle	NorCal	NE-QRP	QRP-L	NTMS
Garland Tx 75043-3250				

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: Jeff Gold <JMG@tntech.edu>
Subject: [2145] Omni VI for sale
Message-ID: <01HZJH1S1WEQ9FQ4PE@tntech.edu>

I can't remember who asked when I was mentioning it, but my Omni VI is up for sale.

It has recently been to Ten Tec for a very complete going over.. and had the last eprom upgrade. The only thing I could find that wasn't in perfect conditions (and I will check it more carefully if anyone is interested) is that the 'U' on the Tune button isn't perfect. not bad.. just not mint.. may have come from the factory that way.

The rig has the 500,250 CW filters, the 1.8SSB and the digital mode filter.. all filter slots are filled. I have the desk mike, and the matching power supply. the supply also has been completely gone over by TT very recently (I live close enough .. so I can drop it off one day. .go hiking in the Smokeys for a couple of days and pick it up).. like to bring my kids :-)) there for periodic checkups (Actually loaded the rig and had it completely done.. because I was convinced I was going to keep it forever)

The power supply is in perfect working condition.. or so says TT.. it has some minor scratches on the shiny metal part on the top.

taking offers. .think it might cost a little to ship the heavy supply. but shouldn't be too bad.

73

Jeff, AC4HF

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: teixeira@ccnet.com (T E I X E I R A)
Subject: [2114] QRP & Tuners
Message-ID: <v01520d00ad0defe02e2b@[206.80.40.58]>

When I was a Novice my "Elmer" told me, only use a tuner as a last resort because they are too lossy.

On QRP you can't afford to loose too much. Any opinions?

Don
N6FNL

"Practice not-doing,

and everything will fall into place."

.....Lao-tzu

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: ssalgaller@CCGATE.HAC.COM
Subject: [2144] qrp ham in space
Message-ID: <9600028206.AA820616901@CCGATE.HAC.COM>

The Nov/Dec '95 issue of Satellite Times has an interesting article on hams in space. I have been following the career of the first ham to transmit from space, Owen K. Garriot W5LFL, since he appeared on the cover of a 1965 issue of QST. Dr. Garriot used a Motorola HT (the only type NASA approved for use) and an antenna taped to the window of the Space Shuttle (no external antennas are permitted by NASA) Since the HT is 5 Watts or less, he should qualify as a qrp person.

The magazine should be available at larger libraries. I suppose I could send out copies to those who are sincerely interested and send a SASE to 4742 W. 166th St., Lawndale, CA 90260 (assuming free copies for personal reference use does not violate some copyright law (?)) Best Wishes for a Great '96 ! Stephen Salgaller WA3ZGT
ssalgaller@ccgate.hac.com

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: edward.f.burke@bangate1.TEK.COM
Subject: [2141] Reduced Drift for Cascade
Message-ID: <vines.iE39+aA0ukA@bangate2.tek.com>

For me, one of the pleasures of using my new Cascade SSB transceiver is chatting

with some of the old-timers who hang out at informal nets on 75 meters. But that requires being tuned to a single frequency for a long time, sometimes as much as an hour, and my Cascade drifts during that time as it apparently warms up.

So, since I got tired of receiving gentle hints to "retune", I decided to investigate improving frequency stability, and I got out my lab frequency counter.

Turns out, a very major improvement can be made with a few simple changes.

In its original (stock) form, the capacitors in the Cascade VFO have a net positive temperature coefficient. As it warms up, the VFO frequency tends to decrease, so the transceiver frequency (on 75M) increases. What is required, is a negative compensation coefficient from "something".

To make a long story short, after many substitutions, I found that replacing three NPO capacitors in the VFO with polystyrene equivalents helps a lot. I made the following substitutions:

C25	100pf	Mouser 23PS110
C22	270pf	Mouser 23PS127
C21	82pf	Mouser 23PS110 (100pf) and Mouser 23PS147 (470pf) in series to get 82pf effective.

These capacitors are the same ones chosen by Wayne Burdick for the Norcal 40 so the improvement should not be too surprising. Mouser's catalog indicates that they have a temperature coefficient of Negative 150ppm/C.

The other change I made was to remount the LM383 audio amplifier outside of the box. I used a five-inch length of shielded, four-conductor cable and put the hot audio chip on its own heat sink on the back panel. I drilled a clearance hole through the lower back panel for the cable. This dropped the receive-only power dissipation inside the enclosure from about 1 watt to less than four-tenths of a watt.

When I rechecked my Cascade after making these changes, I found that the VFO drifted less than 30 Hz over 40 minutes with the cover in place. In operation, I am able to tune a frequency and then leave the tuning knob alone; no more retuning every few minutes.

Enjoy

Ed Burke, KI7KW

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: AlexQRP@aol.com
Subject: [2129] Solar Input
Message-ID: <960102104700_29540741@emout04.mail.aol.com>

Many thanks to all who gave me information on solar power. Appreciate all the leads for equipment etc etc. Happy 96 and gud qrping. Alex

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Subject: [2147] SWR resistance bridge circuit
Message-ID: <Pine.SUN.3.91.960102171818.6580D-100000@ume>

Finally got my single coil Z match ala ARCI QQ July 1995 in it permanent box. (Will measure losses as described in QST April 95 but this is another story.)

I decided to throw in an SWR/relative power circuit ala the Qrp Notebook published in 1986 by DeMaw. (This circuit is NOT in "W1FB's Qrp notebook" published in 1991) The advantage is that the resistor bridge acts as a 51 ohm load while tuning, theoretically reducing the chance of destroying my QRP, non SWR protected finals.

Anyway, it works, sort of. (The SWR meter that is, the tuner works great.) I can easily get full scale deflection but it seems to over estimate the SWR. In retrospect, I realized that I used Radio Shack resistors and these are likely inductive, correct? There may be some stray pickup from leads as well.

MY Point: Have any of you "old timers" on the list built this circuit and got it to work successfully? I don't want to waste a lot of time improving this SWR circuit if it has serious design limitations. I will just convert it to a relative power meter and tune for max output. BTW, I have built the other kinds of SWR circuits and have lots a very accurate commercial one so I don't need to rely on this one per se. Comments and especially past success/failures appreciated. Now to try and build something more "state of the art".....

Dr. Rick Zabrodski BSc, MD, CCFP(E)	*	VE6GK
Clinical Assistant Professor	*	NorCal 519 ARCI 7650 GQRP 8329
Faculty of Medicine, Univ. of Calgary	*	"Power is no substitute for skill"

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996

From: "TimCook" <timcook@erinet.com>
Subject: [2149] Ten Tec 525
Message-ID: <199601030133.UAA23303@eri.erinet.com>

The Argosy has been sold. thanks for the replies..
Tim NZ8J
Tim Cook
timcook@erinet.com

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: litigate@mi.net (litigate)
Subject: [2133] TRADE 990 FOR \$\$\$ & QRP Rig
Message-ID: <199601021642.MAA19548@itchy.mi.net>

I have a Yaesu FT-990AC that I bought new in January 95. Its mint and is still under warranty. Its listed on rec.radio.swap for \$1750 US. Is anyone in QRP land interested in swapping me a mint Argonaut 515 or Argonaut II plus cash for the 990? While I'm at it, I have a mint Drake L-4B HF amp listed for \$775 US, which I'd also consider swapping. de Rick VE9HF (506) 458-1310 (H) / (506) 444-6589 (W). I'm also interested in a mint HW-8.

* Rick Williams VE9HF *
* 472 Broad St. *
* Fredericton, NB *
* E3A 5L1 CANADA *

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: faunt@netcom.com (Doug Faunt N6TQS +1-510-655-8604)
Subject: [2152] What about CW using a Cascade
Message-ID: <199601030211.SAA01323@netcom7.netcom.com>

Is anyone working on this?
How does the MFJ-9420 CW adapter work?

Could it be done on the Cascade by just putting a high-quality audio oscillator into the audio input, and keying the PTT line? An audio filter would give better CW selectivity, I think, although hacking the crystal filter for better selectivity might be possible.

I've got a Cascade kit that I haven't even built yet, but this has

been going around in my head for a while, so I figured I'd throw this out so others can think about it.

73, doug

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: nskousen@scientech.com (Niel Skousen)
Subject: [2139] Re: Beacon Comments from South Carolina
Message-ID: <v02130502ad0f37daa47b@[198.60.91.132]>

>
>If anyone is now planning a DOS PC-controlled beacon, I
>would be glad to assist with the PC software for the above
>(or any other) proposal. Also would be glad to collaborate
>on hardware. Contact me at flanders@groupz.net
>
>I think it is great that AA4XX is running this beacon test
>thing. We all owe him several "attaboys". Thanks, Paul.
>

I'm sure Wayne is just sitting around with nothing to do for the New Year :>

BUT

I can't help but think that a modified KC-1 Keyer/Beacon controller (with a simple 4-bit R-2R interface for an external MiniCircuits PIN attenuator) in a NC-40A/B would make a really nice beacon, and allow for some fun backpacking beacon experiments during the summer . . .

72/73

Niel

Niel Skousen, nskousen@scientech.com
SCIENTECH Special Projects
208-525-3742, 529-4721 (FAX) WA7SSA

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: RHILTO@acxiom.com
Subject: [2140] Re: Beacon Comments from South Carolina
Message-ID: <0e98e450@acxiom.com>

Jerry, W4UKU, wrote:

>On the map, it looks like I am about 275 miles from Raleigh, NC.

>I copied the 2MW transmission,

O! I should hope so! "2MW" = 2 megawatts!!!

Maybe you meant "2mW" for milliwatts....

I propose we permanently drop this metric stuff and revert to "real" units...

7.3 and HNY

Bob ki5ez

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: GREGOIRE@VALLEY.NET (ERNEST GREGOIRE)
Subject: [2125] Re: New England QRP Club
Message-ID: <199601021435.JAA26259@dartvax.dartmouth.edu>

Hello Roy, I checked my incoming mail back to 10-30-95, and didn't find your request. I sent the information out to you directly today, (not via this list), please let me know if you recieved it.

Sorry for your trouble in getting through to me.
Happy New year es gud dx

73 de AA1IK
Ernie

>I appreciate the posting by Ernie Gregoire which tells how to get club info;
>however I've email-ed a request for info three times and still haven't got a
>response. What the heck's going on? Norcal, would you like a new member from
>KY?

>

>72 es cu all tonite on SKN, Roy

>

>-----

> Roy Boggs KE4KDT QRP-L #322
> Prestonsburg, KY rboggs@pcc-uky.campus.mci.net

>-----

>

>

>

de AA1IK N.E.-QRP-C. # 202 (Lead by example, It is better to)
QRP-L member #95. (pull a string than it is to push it.)

Ernie Gregoire
RR 1 Box 221
Canaan, NH. 03741

New England QRP Club, information
available on request by sending me a
S.A.S.E. or via E-mail.

e-mail : GREGOIRE@VALLEY.NET
packet : AA1IK@WA1WOK.FN43FE.NH.USA

From qrp-l@lehigh.edu Tue Jan 2 21:17:50 1996
From: Nick Franco <kf2ph@bnl.gov>
Subject: [2142] Re: Pixie RIT es Thanks
Message-ID: <9601022137.AA19069@bnlux1.bnl.gov.bnl.gov>

Steve,

Sorry about that. I looked at my original reply to Jim with the CC to the qrp-l group and I didn't put in the address correctly so nobody on the list got the reply. I try again with this reply to you and a CC to the group.

Jim,

Sorry I didn't realize several people would be interested in this. It's great. I had a var cap in series with the crystal to ground. I put a fixed cap (about 68 or 100 pF) from one side of a SPDT switch to ground. I put my var cap from the other side of the SPDT switch to ground. I put the crystal to the center of the switch. I use the var cap side for RX and can fine tune the note of the other station (like RIT). The fixed side of the switch is my TX side giving me about 800 - 1000 Hz shift. It worked great and I made a QSO to GA with it on a 12 vdc battery. It puts out over 1/2 watt that

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [2116] Re: QRP & Tuners
Message-ID: <199601020433.EAA26939@chuck.dallas.sgi.com>

Well Don and the gang,

I'll take the losses of the tuner over the ultimately more severe losses that I'd have by not having a matching system.

I have used wire antennas and tuners all my life. I have never had up a beam or yagi. I own a two element HyGain that I bought from AA5DX a couple of years ago but haven't had a tower to put it up on yet.

I have had great success with tuners. My favorite is the MFJ-941C. Kurt N. Sterba of World Radio fame loves his too. :-) No, I'm not Kurt.

With 50ohm matching my transmitter is happy and efficient. Even though the antenna may not be resonant at least by being driven by a voltage at freq $f(0)$, it is radiating energy at $f(0)$ according to the modulation that I put on it. My favorite digital mode is on/off in intervals of 1:3. :-) As you've seen here on the list time and time again, the most important factor given real estate limitations is to get some antenna to radiate and with a tuner you can get all kinds of things to radiate. Don't listen to the nah-sayers. Like Nike says - Just Do It (tm).

My old favorites were the Johnson Matchboxes, both large and small, but with QRP radios slightly larger than a handfull why do I want a boat anchor on the desk too? :-) Not that I wouldn't take one, it's just that I'm into smaller equipment now.

I'm excited about the St Louis Tuner deal because of the size. And it is a cheap way to experiment for the newbies. I am not getting anything for saying this, just expressing my opinion.

My \$0.02 worth at no charge as usual.

dit dit to all

--

Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: N5EM@aol.com
Subject: [2118] Re: QRP & Tuners
Message-ID: <960102004005_82343166@emout04.mail.aol.com>

In a message dated 96-01-01 23:09:01 EST, you write:

>When I was a Novice my "Elmer" told me, only use a tuner as a last resort
>because they are too lossy.

>

>On QRP you can't afford to loose too much. Any opinions?

>

>Don

>N6FNL

>

>

Don,

In the most recent (January, 96) issue of The QRP Quarterly, LB Cebik discusses the efficiency of various tuner configurations. It's worth the reading if you have someone nearby who has a copy, but to sum it up, a "properly engineered and constructed" tuner should operate at efficiencies of around 96% (+/- a few percent). The important thing here is that you use a good quality tuner. Now, that can be homebrew or commercial. It also requires that you spend a little time learning "how" to use your tuner. But the wisdom to "only use a tuner as a last resort" is still good wisdom.

Trouble is, most of us find ourselves in that position all too often. Think of what it takes to have antennas that cover ALL the HF bands (160 - 10), both CW and SSB with low enough SWR to not require a tuner. Of course, you could choose only a couple of bands and have antennas tuned for those bands.

In reality, I think that probably 90% of the QRPers out there have tuners and do not hesitate to use them. That 2 - 5 % loss in the tuner (thats per-cent, not DB!) isn't likely to be the difference in working people and not working them. In fact, a simple doublet antenna, 100 ft. long, fed with open wire line, tuned by a properly designed balanced tuner is probably a better system than most of us use on a regular basis. Since that configuration is inherently all band (you tune it where you want to use it), you gain great flexibility to operate on the most efficient frequency available, rather than limiting yourself to only a couple of bands for which you have a resonant antenna system.

Even "multiband" antennas frequently only operate with low SWR over a small portion of the desired band (160 - 80 as an example). These antennas require

the assistance of a tuner to make those excursions.

And, many QRPers have long (100' or more), old (20 years in some cases), lossy feedlines that diminish their signal a lot more than the inefficiency of their tuner :-)

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: cebik@UTKVX.UTCC.UTK.EDU
Subject: [2124] Re: QRP & Tuners
Message-ID: <Pine.PMDF.3.91.960102072716.541071528A-100000@utkvx.utk.edu>

Don,

The three replies before mine all gave you sound views about tuners. They simply are necessary sometimes to do the communications work we want to do. Every type of network has its limitations: some are more efficient with high impedances, others with low, some with capacitive reactance at the tuner out-feedline connection, others with inductive reactance there. But, if used well, they are more efficient than losing power in the looong coax to a mismatched load, where the SWR multiplier on basic loss turns RF into heat ditributed in the line (and thus hard to detect at low power levels).

We can do two things to effect a match without using an antenna tuner. Your rig(s) already uses one method: it converts the impedance of the output amplifying device to the common 50-ohm figure: that network, and any harmonic suppression networks following it, are subject to the same losses as an ATU: we pay the 2 to 5% toll for the benefit of impedance matching and harmonic suppression (assuming a properly designed network). Why not another 2-5% at the ATU?

The other thing we can do is place a network at the antenna feedpoint to match it to the line and TX output impedance. The gamma and beta matches are such networks. They are also subject to the toll, although a 2-element network generally has slightly lower losses than a 3-element network at optimal working Q (as Termin's old delta is sometimes called). But the difference is insignificant.

We use impedance matching networks all the time, almost everywhere in our transmitters and receivers. An ATU is no different in principle, with these two exceptions: 1. They live in a box by themselves, with connectors, wiring, and sometimes casing that can increase the losses above those of the network itself. (The last issue of 72 had some interesting measurements in this regard.) 2. They are adjustable, which means that we can precisely adjust them or maladjust them, so that even a match may not mean the high available efficiency.

Essentially, it boils down to this. If your XCVR-feedline-antenna system is perfectly matched at all frequencies you wish to use, save the ATU money for something else you need. If, like many, you use a multiband antenna with parallel feeders, you will be operating with an efficient but mismatched system: you need an ATU in this situation. Hence, the bottom line: use an ATU when you need it, otherwise don't. But, if you need one, learn all you can about it so that you can use it well.

Hope this adds at least a little something to the sage words in the three responses preceding.

-73-

LB, W4RNL

From qrp-1@lehigh.edu Tue Jan 2 21:17:50 1996
From: markem@primenet.com (Mark Monninger)
Subject: [2153] Re: What about CW using a Cascade
Message-ID: <199601030308.UAA12188@usr5.primenet.com>

All you need to do is unbalance the modulator. Grounding pin 1 of U2 thru a resistor (10K or so) will do that although I don't know how clean it would be if you just keyed it.

You'd also probably want to shift the VFO down to the CW part of the band...probably could switch a cap in to drop the freq.

And as you mentioned there's the wide (for CW) filter.

It's certainly possible but I think you might be better off with a CW-only rig if you want to do CW.

I'd like to see a mod for a bit more power...say 10W on 20M and 20W on 75M. Might have to build that linear amp from the latest CQ mag.

73... Mark AA7TA